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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,606	12/21/2006	Volker Sauermann	09700.0200-00	2047
60668 7590 08/20/2009 SAP / FINNEGAN, HENDERSON LLP 901 NEW YORK AVENUE, NW WASHINGTON, DC 20001-4413				
EXAMINER BRYANT, DOUGLAS J.				
ART UNIT		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/567,606

Applicant(s)

SAUERMAN, VOLKER

Examiner

DOUGLAS BRYANT

Art Unit

2195

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-20 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 08 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date 02/08/2006
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

1. This is the initial Action based on the 10/567606 application filed on 12/21/2006.
2. Claims 1-20 are pending.

Claim Construction

3. Claims 18-19, are being treat under 35 USC 112 sixth paragraph in which "means for" sorting, assigning, and outputting required by a processor as supported by applicant's specification (Pg. 7, lines 6-16; Pg. 7 lines 25-27; Pg. 8 lines 1-2).

Priority

4. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 10567606, filed on 12/21/2006

Specification

5. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code (Page 3, line 2 of Spec). Correction is required. See MPEP § 608.01(b).

6. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The specification failed to provide proper antecedent basis for the limitation “computer program product” as recited in claims 12-17.

7. A substitute specification including the claims is required pursuant to 37 CFR 1.125(a) because the amendment to the specification filed on 2/8/06 has too many changes within the specification which will be difficult to enter.

A substitute specification must not contain new matter. The substitute specification must be submitted with markings showing all the changes relative to the immediate prior version of the specification of record. The text of any added subject matter must be shown by underlining the added text. The text of any deleted matter must be shown by strike-through except that double brackets placed before and after the deleted characters may be used to show deletion of five or fewer consecutive characters. The text of any deleted subject matter must be shown by being placed within double brackets if strike-through cannot be easily perceived. An accompanying clean version (without markings) and a statement that the substitute specification contains no new matter must also be supplied. Numbering the paragraphs of the specification of record is not considered a change that must be shown.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 7 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. The following claim language is unclear and indefinite:

- a. In regards to claim 7, line 3, it is uncertain how “third threshold” exist and no “first and second threshold” (i.e. claim 7 depends on claim 1 not 5 or 6 where first and second threshold exist). It is not clearly understood what the relationship between “limits” and threshold” (i.e. Are they the same or different?).
- b. In regards to claim 12, it is uncertain whether this is a computer program product (as in preamble) or a method claim (as in the body of the claims). Examiner suggests to amend line 4 by inserting “when executed by a processor” before --for--.

Claim Rejections - 35 USC § 101

11. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

12. Claims 12-17 and 20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

13. With regards to claim 12, applicant failed to specifically defined or described "a computer program product" (see specification objection above), the examiner is giving the broadest reasonable interpretation to the limitation as any computer program product known in the art including statutory and non-statutory embodiments, therefore, the claims are rejected under 35 U.S.C. 101 because they are not limited to statutory embodiments. Assuming the program product does not include the non-statutory embodiments, claims 12-17 directs to non-statutory subject matter because it is lacking utilities. More specifically, the claims recite substantially "a computer program product comprising program means further comprising instructions for performing" but failed to indicate what permits the instructions to be realized (i.e. the computer executable code or instructions must be stored in a computer program product, and executable by a computer element to perform control of a technical procedure). See MPEP 2106.01.

14. The dependent claims 13-17 did not cure the deficiency of claim 12, therefore they are rejected for the same reason as claim 12 above.

15. Claim 20 is rejected under 35 U.S.C. 101 because it is a blade server claim directed to software alone without claiming associated computer hardware required for execution, and the claim only recites software per se (descriptive material covered in MPEP 2106.01), which constitute as non-statutory subject matter. Thus software alone fails to fall within a statutory category of invention.

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 1-3, 10, 12-14, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sirgany (Sirgany) US Patent Application 2002/0016785, in view of "On-line Packing and Covering Problems" Csirik et al. (Csirik) 0016785 published in 1998.

18. With regards to claim 1, Sirgany teaches a method of assigning objects to processing units of a cluster of processing units (Para 0024, lines 1-5), each one of the processing units having a storage capacity (Para 0008, lines 1-7), the method comprising the steps of: sorting of the objects by size to provide a sequence of objects (Para 0025, lines 1-4);

19. Sirgany does not explicitly teach a method of assigning of one or more of the objects to the processing unit starting with the largest object in the sequence until a remaining storage capacity of the processing unit is below the smallest object of the sequence; and deleting of the objects which are assigned to a processing unit from the sequence.

20. However, Csirik teaches on assigning of one or more of the objects to the processing unit starting with the largest object in the sequence until a remaining storage capacity of the processing unit is below the smallest object of the sequence (Csirik, Pg. 154, Sec. 3.4, lines 3-5); and deleting of the objects which are assigned to a processing unit from the sequence (Csirik, Pg. 147, Sec 1, lines 15-16 [packed items are not repacked]).

21. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to incorporate into Sirgany's teaching of assigning objects to processing units of a cluster of processing units with Csirik's bin packing algorithm(s) for packing items based on size or any numerous amount of characteristics to improve resource consumption of Sirgany's system such that the preliminary allocation of objects among processing units are done efficiently to utilize all the resources of each processing unit and at the same time using a minimum number of processing units (Csirik, Pg. 147, Sec. 1, lines 1-10).

22. With regards to claim 2, Csirik teaches the method of assigning objects to a plurality of processing units in claim 1, wherein the steps of assigning of one or more of the objects to the processing unit starting with the largest object in the sequence until a remaining storage capacity of the processing unit is below the smallest object of the sequence (Csirik, Pg. 154, Sec. 3.4, lines 3-5) and deleting of the objects which are assigned to a processing unit from the sequence (Csirik, Pg. 147, Sec 1, lines 15-16 [packed items are not repacked]) are carried out repeatedly until the sequence is empty which provides a minimum number of the processing units (Csirik, Pg. 147, Sec 1, lines 1-16).

23. With regards to claim 3, Csirik teaches the method of assigning objects to a plurality of processing units in claim 1, wherein the remaining storage capacity is determined by the difference between the storage capacity and the aggregated size of objects being assigned to the processing unit (Csirik pg. 150, section 3.1, lines 1-18; remainder or empty space in earlier packed bins is the difference between the total and what is used).

24. With regards to claim 10, Csirik teaches the method of assigning objects to a plurality of processing units in claim 1, wherein the objects are database tables of various sizes (Csirik Pg. 154, Sec 3.4, lines 12-16).

25. With regards to claim 12, claim 12 is rejected on the same rationale as claim 1.

26. With regards to 13, claim 13 is rejected on the same rationale as claim 2.

27. With regards to 14, claim 14 is rejected on the same rationale as claim 3.

28. With regards to 18, Csirik teaches the means for sorting of the objects by size to provide a sequence of objects (Csirik, Pg. 165, Sec. 7, lines 1-11); means for assigning of one or more of the objects to a processing unit starting with the largest object in the sequence until a remaining storage capacity of the processing unit is below the smallest object of the sequence (Csirik, Pg. 154, Sec. 3.4, lines 3-5); and means for outputting of the minimum number of the processing units (Csirik pg. 147, Sec. 1, lines 1-16, computer system carrying out the packing algorithm).

29. Claims 11 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sirgany and Csirik as applied to claims 1 and 19 above, and further in view of Romero (U.S. PG Publication 2004/0054780).

30. With regards to claim 11, Sirgany and Csirik do not specifically teach wherein each of the processing units is at least one of a blade and a blade server. However, Romero teaches balancing loads among blade server (Romero, pg. 1, paragraph 9). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to include blade server as a processing unit since the assignment and processing of objects (load rebalancing of objects) of Sirgany and Csirik are in no way depending on the type of processing units used in processing the objects and the blade server can be used in place of the processing units of Sirgany and Csirik to achieve the predictable results of assigning and processing objects.

31. With regards to claim 19, Romero teaches each processing unit being a single-board computer having a bus interface to a bus system that couples the single-board computers (Pg. 1, Para 006 and Para 007).

32. With regards to claim 20, this claim is rejected for the same rationale as claims 1 and 11 above.

Allowable Subject Matter

33. Claims 4-9, and 15-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base

claim and any intervening claims, in addition, overcoming the outstanding claim objection, 112 2nd paragraph rejections and double patenting rejection above.

34. The following is a statement of reasons for the indication of allowable subject matter: The prior arts of record do not expressly teach or render obvious, in the context of the claim taken as a whole, the determining of the largest gaps between aggregated size of objects being assigned to one of the processing units and storage capacity to calculate thresholds for assigning the objects as recited substantially in claim 4 and 15, determining total sizes of the objects and the differences between the total storage capacities of the minimum number of processing units to calculate thresholds for assigning the objects as recited substantially in claim 5 and 16, no such excess amount but a gap, dividing the gap by the minimum number of processing units and decreasing the second threshold by the result of the division as recited substantially in claim 6 and 16, the stepwise varying of the first and second thresholds between respective first and second limits to facilitate the assignment of object based on one of the assignment further based on the first or second threshold as recited substantially in claim 7 and 17. Neither reference uncovered that would have provided a basis of evidence for asserting a motivation, nor one of ordinary skilled in the art at the time the invention was made, knowing the teaching of the prior arts of record would have combined them to arrived at the present invention as recited in the context of claims 4-9 and 15-17 as a whole. Claims 8-9 are dependent claims of claim 7 and are objected for the same reason as claim 7.

Conclusion

35. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOUGLAS BRYANT whose telephone number is (571)270-7707. The examiner can normally be reached on M-F 8:00-5:00pm Est.
36. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.
37. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Meng-Ai An/
Supervisory Patent Examiner, Art Unit 2195

/DOUGLAS BRYANT/
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